

Case Report

UNUSUAL CLINICAL MANIFESTATION OF EPIDERMOID CYST MIMICKING BASAL CELL CARCINOMA

Presentación Clínica Inusual de Quiste Epidermoide Imitando un Carcinoma Basocelular

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ABSTRACT

Epidermoid cyst is a type of cutaneous cyst commonly found in daily practice. The facial area is the most common area for emergence of this benign condition. Simple extirpation is usually performed to remove epidermoid cysts. However, in rare cases, epidermoid cysts can evolve into malignancies such as basal cell carcinoma (BCC) or can mimic them, which adds difficulty when making a proper diagnosis. In cases of doubt, histopathology plays a key role in aiding diagnosis. This case report is about a 33-year-old woman with suspected nodular lesion that mimicked BCC, but after histopathological analysis was confirmed to be epidermoid cyst.

Keywords: Epidermoid Cysts; Basal Cell Carcinoma; Differential Diagnosis.

1. Introduction

Cutaneous cyst is a very common occurrence in dermatology and can usually be removed with simple extirpation. Epidermoid cyst is a common type of cutaneous cyst derived from the follicular infundibulum. (Hoang *et al.*, 2019, Ben Naftali *et al.*, 2018) The name “epidermoid” arises from the fact that the lining of the cyst produces keratin. (Hoang *et al.*, 2019) Epidermoid cyst formation can be triggered by various factors, such as trauma, inflammation, ultraviolet radiation, photodynamic therapy, or sporadic. Previous family history may also influence the condition. The role of human papillomavirus is still debated. The facial area is the most common site for epidermoid cyst, even though it can arise in any part of the body. (Ghaffar *et al.*, 2007)

Epidermoid cyst has a wide array of clinical appearance, which can mimic other dermatosis and can sometimes be misdiagnosed with other more malignant conditions, although in very rare cases, epidermoid cyst itself can evolve into malignancies such as basal cell carcinoma and squamous cell carcinoma. (Ben Naftali *et al.*, 2018)

This paper reports a case of a 33-year-old woman with epidermoid cyst that mimicked basal cell carcinoma (BCC). The patient was excised, and it was confirmed that the lesion was in fact epidermoid cyst.

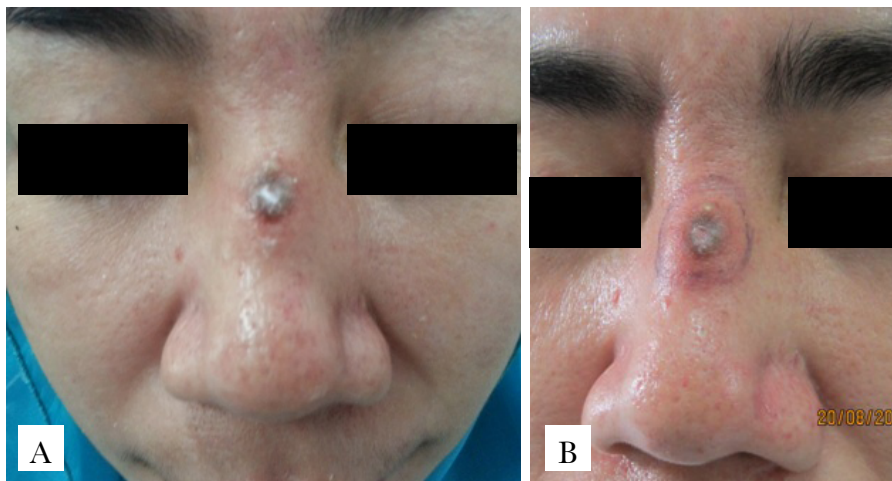
2. Case Report

A 33-year-old woman came with the chief complaint of a large pimple on the base of the nose seven months prior. Initially, the patient thought it was an acne and she pinched the lesion, with white material resembling rice grain coming out of the pimple which resulted in excoriation. In addition, the lesion was slowly enlarging. There was no bleeding, and the patient did not feel any pain or itchiness. The patient then consulted various doctors who prescribed her various topical antibiotics in combination with steroids, but with minimal response.

Physical examination found that the patient's vital signs were within normal limits. Upon the dorsal of the nose there was a single hyperpigmented nodule surrounded by excoriation and erythema with a diameter of 1.5cm (**Figure 1A**). The patient had no previous health issues, other than acne, and there was no history of trauma, radiation or cancer in the family. The initial differential diagnosis were basal cell carcinoma (BCC) and epidermoid cyst. The patient was then scheduled for excision with Modified Moh's Micrographic Surgery (MMS) with safety margins set at 3mm around the nodule. (**Figure 1B**)

Figure 1

Hyperpigmented Nodule on Dorsal Nose (A), Safety Margins Upon Excision of 3mm (B)

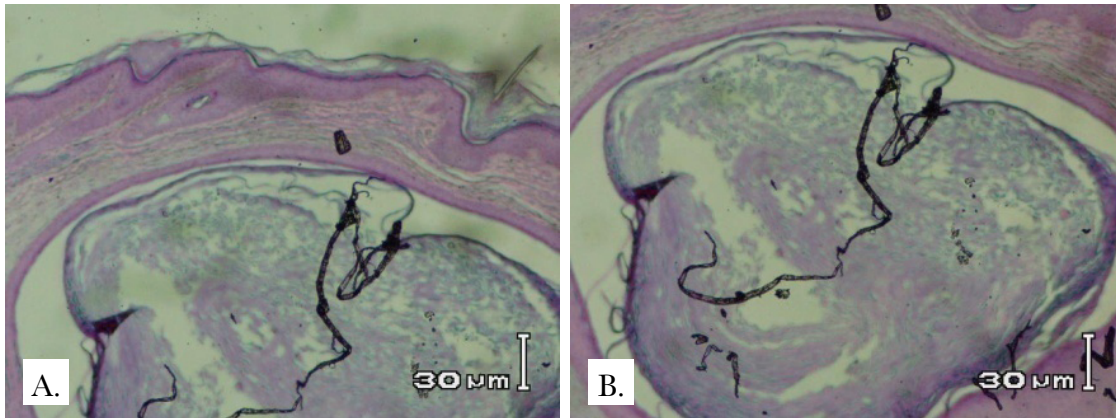


Histopathological analysis of the excised tissue found hyperplasia, hyperkeratosis, and papillomatosis on the epidermis. On the upper dermis there was found a cyst-wall like structure covered with stratified squamous epithelium with lamellar keratin body inside. No malignant basaloid cells were found. On the base of the tumor were found connective and muscular tissues, with no tumor cells. Overall,

there was no tumor cells on all five margins of the tissue, and it was concluded that the diagnosis is epidermoid cyst. (**Figure 2A and 2B**)

Figure 2A and 2B

Hyperplasia, Hyperkeratosis, and Papillomatosis on the Epidermis. Cyst-Wall Like Structure Covered with Stratified Squamous Epithelium and Lamellar Keratin Mass Inside. No Malignant Cells Found



After excision, the patient was treated with oral antibiotics and analgetic for five days and was scheduled for wound closure using the A-T plasty flap reconstruction technique. 7 days after, the patient came to the outpatient clinic with satisfying result as the wound healed very well and there was no sign of secondary infection and minimal scarring.

3. Discussion

This case report is about a 33-year-old woman with BCC-like nodule on the dorsal of the nose, which was then proved by histology to be an epidermoid cyst. The clinical appearance of the lesion was very similar with BCC, added with the fact that the lesion was slowly enlarging and painless. However, as the patient was relatively young with no prior history of trauma, radiation, or other diseases, this prompted suspicion that the lesion might not be BCC. Epidermoid cyst came into mind as it was already reported to be able to mimic malignancies such as in the case of Cock's peculiar tumor, where a giant epidermoid cyst mimicked squamous cell carcinoma.(Afleck & Varma, 2010) Additionally, There was a case report that described epidermoid cyst resembling breast cancer(Ben Naftali *et al.*, 2018).

In this case, the suspicion is that the previous history of inflammation due to acne may induce the formation of epidermoid cyst in this patient.(Ghaffar *et al.*, 2007) Epidermoid cyst has a wide array of clinical appearances, and we suspect that in this patient, they type is ruptured epidermoid cyst. The location of epidermoid cysts on the facial area is very common, which according to a study by Wollina *et al* accounted for 73.4% of all cases they observed in a 10-year-retrospective study of epidermoid cyst clinical presentation.(Wollina *et al.*, 2018) Due to the difficulty diagnosing either BCC or epidermoid cyst, in addition that BCC can evolve from epidermoid cyst, Modified MMS was preferred to extirpation for removal of the lesion.

A true cutaneous cyst is defined as a closed cavity, with the lining covered by epidermis. The cavity can contain various substances such as keratin or subcutaneous fat. In this case, histopathology found

similar attributes to a cyst, with hyperkeratosis, hyperplasia, and papillomatosis, with keratin inside. This prompted the diagnosis of epidermal cyst that mimicked basal cell carcinoma. Conversely, it should be noted that basal cell carcinoma can also mimic epidermoid cyst, as reported by Matsui, *et al.* in a case of a 91-year-old male patient with of a case of giant cystic basal cell carcinoma resembling epidermoid cyst (Matsui *et al.*, 2009).

Other more serious diseases may mimic epidermoid cysts, as reported by Garcia-Zuazaga, *et al.* in a case series involving seven patients, found that conditions such as hidradenoma, B-cell lymphoma, epithelioid sarcoma, metastatic adenocarcinoma of the lung, granular cell tumor, and cutaneous meningioma. This showed that the differential diagnosis of subcutaneous nodules can be very broad (Garcia-Zuazaga *et al.*, 2009).

After histopathology confirmed the lesion was benign, a second operation to close up the wound was performed with satisfying result with adequate healing and no secondary infection observed.

4. Conclusion

It is important that physicians can distinguish lesions of the benign epidermoid cyst with other conditions such as basal cell carcinoma to minimize morbidity and administer proper prompt treatment. In cases of doubt, histopathology plays a key role in determining the proper diagnosis.

5. Conflict of interest

The author declared no conflict of interest.

6. Ethical and Authorization Consent

The patient has agreed for her information and photographs to be used and published.

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RESUMEN

El quiste epidermoide es un tipo de quiste cutáneo que se encuentra frecuentemente en la práctica diaria. El área facial es el área más común para la aparición de esta lesión benigna. La extirpación quirúrgica simple es el procedimiento habitual para eliminar los quistes epidermoides. Sin embargo, en casos raros, los quistes epidermoides pueden evolucionar en neoplasias malignas como el carcinoma basocelular (CCB) o pueden imitarlos, lo que añade dificultad al hacer un diagnóstico adecuado. En caso de duda, la histopatología desempeña un papel clave en la ayuda al diagnóstico. Este informe de caso trata sobre una mujer de 33 años con sospecha de lesión nodular que imitaba el CCB, pero después de que se confirmó con el análisis histopatológico, que se trataba de un quiste epidermoide.

Palabras clave: Quiste Epidermoide; Carcinoma Basocelular; Mimetismo; Diagnóstico Diferencial.
